

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A substrate processing apparatus comprising:

a processing chamber for accommodating a substrate therein;

a mounting table for mounting the substrate thereon;

a heating member disposed in the mounting table, for heating the substrate;

a sealing member disposed between a bottom of a support of the mounting table and a bottom portion of the processing chamber; [[and]]

a cooling unit, having a cooling medium, for cooling the sealing member by using a latent heat of vaporization of the cooling medium included therein, wherein the cooling unit includes an airtight casing for accommodating the cooling medium therein, the casing has a first end portion and a second end portion, and the first end portion is ~~configured to be~~ inserted into an opening formed through the bottom portion of the processing chamber[[.]];

a temperature sensor inserted into an aperture formed through the bottom portion of the processing chamber near the sealing member; and

a cooling unit controller for controlling the cooling unit based on a measurement result of the temperature sensor,

wherein the cooling unit further includes a condenser accommodating therein the second end portion to thereby liquefy, in the second end portion, the cooling medium vaporized in the first end portion.

Claim 2 (Previously Presented): The apparatus of claim 1, wherein the casing is depressurized.

Claim 3 (Canceled).

Claim 4 (Original): The apparatus of claim 1, further comprising a processing gas supply system for supplying a processing gas into the processing chamber.

Claim 5 (Original): The apparatus of claim 4, wherein the processing gas supply system includes a plurality of processing gas supply units for supplying different processing gases and a processing gas supply unit controller for controlling each of the processing gas supply units such that the processing gases are supplied alternately.

Claim 6 (Withdrawn): A substrate processing apparatus comprising:

- a processing chamber for accommodating a substrate therein;
- a mounting table having a mounting portion for mounting thereon the substrate and a support for supporting the mounting portion;
- a heating member disposed in the mounting portion, for heating the substrate;
- a sealing member disposed between the support and the processing chamber; and
- a shielding member for shielding a heat radiation directed toward the sealing member from the mounting portion; and
- a shielding cap covering a bottom portion of the support.

Claim 7 (Withdrawn): The apparatus of claim 6, wherein the shielding member covers at least a part of a bottom surface of the mounting portion.

Claim 8 (Withdrawn): The apparatus of claim 6, further comprising a substrate elevating member for elevating the substrate, wherein the shielding member supports the substrate elevating member.

Claim 9 (Withdrawn): The apparatus of claim 6, further comprising a processing gas supply system for supplying a processing gas into the processing chamber.

Claim 10 (Withdrawn): The apparatus of claim 9, wherein the processing gas supply system includes a plurality of processing gas supply units for supplying different processing gases and a processing gas supply unit controller for controlling each of the processing gas supply units such that the processing gases are supplied alternately.

Claim 11 (Canceled).

Claim 12 (Previously Presented): The apparatus of claim 1, wherein the cooling medium is water, hydrofluoroether, alcohol, fluorine-contained inactive liquid or naphthalene.

Claim 13 (Previously Presented): The apparatus of claim 1, wherein the casing includes a wick for moving the first cooling medium liquefied in the second end portion to the first end portion by a capillary force.

Claim 14 (Previously Presented): The apparatus of claim 13, wherein the wick is a wire net.

Claim 15 (Previously Presented): The apparatus of claim 1, wherein the condenser includes a vessel for accommodating therein the second end portion.

Claim 16 (Previously Presented): The apparatus of claim 15, wherein a circulation line for circulating a coolant which liquefies the vaporized cooling medium in the second end portion is connected to the vessel and a coolant supply source.

Claim 17 (Previously Presented): The apparatus of claim 16, wherein a pump for pumping the coolant from the coolant supply source is installed on the circulation line.

Claim 18 (Canceled).

Claim 19 (New): The apparatus of claim 1, further comprising a power supply, disposed outside the chamber, for supplying a power to the heating member, the heating member being connected to the power supply via lead lines;

wherein the substrate is processed by using a processing gas supplied into the processing chamber, and the sealing member prevents the lead lines from contacting with the processing gas.

Claim 20 (New): The apparatus of claim 1, wherein the first end portion is disposed below the sealing member.